

### Abstract of the Disclosure

In a power supply circuit, a main transistor, which transmits power from an input terminal to an output terminal, is controlled so that a detected voltage from an input voltage is consistent with a reference voltage indicating a target voltage. An output current is detected and a limited value of the output current is set so that the limited value increases gradually when the output voltage rises up to the target voltage. The main transistor is controlled so that the output current keeps a value less than or equal to the limited value. This configuration is able to suppress an overshoot of the output voltage, thanks to a gradually raised control of the limited value. Additionally, to avoid the influence of a ringing component of the input voltage, a delay control circuit to give a delay to the start of rise of the output voltage can be provided.